AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of analyzing flow of a substance in a sewer network, comprising:

collecting first data representative a first flow velocity of a ~~substrate~~ substance at a first location in a sewer network;

collecting second data representative of a second flow velocity of the substance at a second location in the sewer network; and

determining, by a processor, a travel time corresponding to the time it takes for the substance to travel between the first location and the second location, using the first data, the second data, and a constant.

2. (Original) The method of claim 1 and further comprising:

detecting a first flow volume at the first location at a first time;

detecting a second flow volume at the second location at a second time, the second time being a function of the first time and the travel time;

transmitting, via the at least one communications link, the first flow volume and the second flow volume to a processor; and

determining by the processor, a new flow corresponding to a difference between the second flow volume and the first flow volume.

3. (Original) The method of claim 1 wherein the determining step requires no additional data relating to the sewer network or the substance.

4. (Original) The method of claim 1 wherein the determining step comprises dividing the constant by a sum or an average of the first data and the second data.

5. (Currently Amended) The method of claim 1 wherein the constant corresponds to historic flow volume data from ~~the~~ a first flow meter for the first location and historic flow volume data from ~~the~~ a second flow meter for the second location, each of said historic flow volume data relating to a plurality of time increments.

6. (Original) The method of claim 1, further comprising developing a distribution of first flow volume data over a period of time and a distribution of second flow volume data over the period of time, and wherein the constant corresponds to a goodness of fit test performed on the distributions.

7. (Original) The method of claim 1 wherein the processor is integral with a flow meter that is located at the first location or the second location.

8. (Original) A system for analyzing flow of a substance between a first location and a second location, comprising:

a first meter capable of detecting a first flow velocity at a first location; and

a second meter capable of detecting a second flow velocity at a second location;

wherein the first meter and the second meter are in communication with a processor, and the processor is programmed to derive a travel time of a flow from the first location to the second location using the first flow velocity, the second flow velocity , and a constant.

9. (Original) The system of claim 8 wherein the first meter is also capable of detecting a first flow volume at the first location at a first time, the second meter is also capable of

detecting a second flow volume at the second location at a second time, the second time corresponds to a sum of the first time and the travel time, and the processor is further programmed to determine a net flow based on the difference between the second flow volume and the flow volume.

10. (Original) The system of claim 8 wherein the processor does not require additional data relating to the flow or the locations.

11. (Original) The system of claim 8 wherein the first location and the second location are locations within a sewer network.

12. (Original) The system of claim 8 wherein the constant corresponds to historic flow volume data from the first meter for the first location and historic flow volume data from the second meter for the second location, each of said historic flow volume data corresponding to a plurality of the increments.

13. (Original) The system of claim 8 wherein the processor is integral with the first or second meter.

14. Canceled.

15. Canceled.

16. Canceled.

17. (Currently Amended) A method of analyzing flow of a substance between a first location and a second location, comprising:

collecting a first set of flow volume data at a first location over a plurality of time increments;

collecting a second set of flow volume data at a second location over the plurality of time increments;

identifying a first distribution of the first set of flow volume data over time;

identifying a second distribution of the second set of flow volume data over time;

identifying a constant corresponding to a relation of the first distribution and the second distribution;

detecting a first flow velocity at the first location;

detecting a second flow velocity at the second location; and

determining a transport time corresponding to a transport of a ~~substrate~~ substance ~~form~~ from the first location using the first flow velocity, the second flow velocity, and the constant, wherein the determining step does not require additional data.

18. (Original) The method of claim 17, further comprising:

detecting, using the first flow meter at a first time, an upstream flow volume;

detecting, using the second flow meter at a second time, a downstream flow volume, the second time corresponding to a sum of the first time and the transport time, and

calculating a net flow corresponding to a difference between the downstream flow volume and the upstream flow volume.

19. (Original) The method of claim 17 wherein the relation in the identifying step comprises a goodness of fit test.

20. (Original) A method of analyzing flow of a substance in a sewer network, comprising:

collecting, using a plurality of upstream flow meters, a plurality of sets of upstream flow volume data, each corresponding to each upstream flow meter over a period of time;

collecting, using a downstream flow meter, a set of downstream flow volume data over the period of time; p1 identifying a plurality of upstream distributions, each corresponding to a set of upstream flow volume data over time;

identifying a downstream distribution corresponding to the set of downstream flow volume data over time;

identifying a constant corresponding to a relation of the upstream distributions and the downstream distribution;

detecting a first flow velocity at a upstream location;

detecting a second flow velocity at a downstream location corresponding to the downstream flow meter; and

determining a transport time corresponding to transport of a substance from the upstream location to the downstream location using the first flow velocity, the second flow velocity, and the constant, wherein the determining step does not require additional data.

21. (Original) The method of claim 20 further comprising:

detecting, using a first flow meter selected from the plurality of upstream flow meters at a first time, an upstream flow volume;

detecting, using the downstream flow meter at a second time, a downstream flow volume, the second time corresponding to a sum of the first time and the travel time; and

calculating a net flow corresponding to a difference between the downstream flow volume and the upstream flow volume.

22. (Original) The method of claim 21 wherein the upstream location corresponds to a location of one of the plurality of upstream flow meters.

23. (Original) The method of claim 20 wherein the relation in the identifying step comprises a goodness of fit test.